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Miscellaneous Publication No. 739 Revised February 1959

The National Poultry and Turkey Improvement Plans

COOPERATING IN
The NATIONAL POULTRY IMPROVEMENT PLAN
ADMINISTERED BY OFFICIAL STATE AGENCIES AND U.S. DEPARTMENT OF AGRICULTURE

COOPERATING IN
The NATIONAL TURKEY IMPROVEMENT PLAN
ADMINISTERED BY OFFICIAL STATE AGENCIES AND U.S. DEPARTMENT OF AGRICULTURE

AND AUXILIARY PROVISIONS

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UNITED STATES DEPARTMENT OF AGRICULTURE

The National Poultry Improvement Plan became operative July 1, 1935, with the approval of the Secretary of Agriculture and under the authority of an appropriation made by Congress for the United States Department of Agriculture, to be used in cooperation with State authorities in the administration of regulations for the improvement of poultry, poultry products, and hatcheries. The National Turkey Improvement Plan became operative September 25, 1943. Authority for the administration of the Plans is now contained in the Department of Agriculture Organic Act of 1944, as amended (7 U. S. C. 429).

The objectives of the National Poultry and Turkey Improvement Plans are to improve the production and market qualities of chickens and turkeys and to reduce losses from hatchery-disseminated diseases.

The provisions of the Plans are changed from time to time to conform with the development of the industry and with new information as it becomes available. These changes are based upon recommendations made at the biennial National Plans Conferences by official delegates representing participating flockowners, breeders, and hatcherymen from all cooperating States, in accordance with Subpart C, Part 147 of this publication.

Acceptance of either Plan is optional with the States and individual members of the industry within the States. The Plans are administered in each State by an Official State Agency cooperating with the United States Department of Agriculture. A list of the Official State Agencies and other publications relating to the Plans are available upon request to the Animal Husbandry Research Division, Agricultural Research Service, Beltsville, Md.

Animal Husbandry Research Division

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The National Poultry and Turkey Improvement Plans and Auxiliary Provisions

(9 CFR, Parts 145, 146, and 147, as amended)

Part 145—National Poultry Improvement Plan (Chickens and Certain Other poultry)

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SEC. 145.1 **Definitions.** Except where the context otherwise requires, for the purposes of this part the following terms shall be construed, respectively, to mean:

(a) **Plan.** The provisions of the National Poultry Improvement Plan contained in this part.

(b) **Person.** A natural person, firm, or corporation.

(c) **Department.** The United States Department of Agriculture.

(d) **AH Division.** The Animal Husbandry Research Division of the Agricultural Research Service of the Department.

(e) **State.** Any State, the District of Columbia, Alaska, Hawaii, or Puerto Rico.

(f) **Official State Agency.** The State authority recognized by the Department to cooperate in the administration of the Plan.

(g) **State Inspector.** Any person employed or authorized under section 145.11 (b) to perform functions under this part.

(h) **Authorized Agent.** Any person designated under section 145.11 (a) to perform functions under this part.

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(i) **ROP Supervisor.** The person employed or authorized to perform functions under section 145.20

(j) **ROP Inspector.** The person employed or authorized to perform functions under section 145.21.

(k) **Affiliated flockowner.** A flockowner who is participating in the Plan through an agreement with a participating hatchery.

(l) **Flock**—(1) **As applied to breeding.** All chickens of one kind of mating (breed and variety or combination of stocks) and of one classification on one farm;

(2) **As applied to disease control.** All of the chickens on one farm except that, at the discretion of the Official State Agency, any group of chickens which is segregated from another group and has been so segregated for a period of at least 21 days may be considered as a separate flock.

(m) **Hatchery.** Hatchery equipment on one premises operated or controlled by any person for the production of chicks.

(n) **Products.** Chicken breeding stock and hatching eggs, and chicks.

(o) **Baby chicks.** Chicks that have not been fed or watered.

(p) **USROP or ROP.** U. S. Record of Performance.

(q) **Strain.** Chicken breeding stock bearing a given name produced by a breeder through at least five generations of closed flock breeding.

Sec. 145.2 **Administration. (a)** The Department cooperates through a Memorandum of Understanding with Official State Agencies in the administration of the Plan.

(b) The Official State Agency shall carry out the administration of the Plan within the State according to the applicable provisions of the Plan and Memorandum of Understanding. An Official State Agency may accept for participation an affiliated flock located in another State under a mutual understanding and agreement between the two Official State Agencies regarding conditions of participation and supervision.

(c) The Official State Agency of any State may adopt regulations applicable to the administration of the Plan in such State further defining the provisions of the Plan or establishing higher standards compatible with the Plan.

Sec. 145.3 **Participation.** (a) Any person producing or dealing in poultry products may participate in the Plan when he has (1) demonstrated, to the satisfaction of the Official State Agency, that his facilities, personnel, and practices are adequate for carrying out the applicable provisions of the Plan; and (2) signed an agreement with the Official State Agency to comply with the general and the applicable specific provisions of the Plan and any regulations of the Official State Agency under section 145.2. Affiliated flockowners may participate without signing an agreement with the Official State Agency.

(b) Each participant shall comply with the Plan throughout the operating year of the Official State Agency, or until released by such Agency.

(c) A participant in any State shall participate with all of his chicken hatching egg supply flocks and hatchery operations within such State.

(d) No person shall be compelled by the Official State Agency to qualify products for any of the classifications described in section 145.10 (a), (b), (c), (d) and (e) as a condition of qualification for either of the classifications described in section 145.10 (f) and (g).

(e) Participation in the Plan shall entitle the participant to use the Plan emblem reproduced below:

COOPERATING IN
The NATIONAL POULTRY IMPROVEMENT PLAN
ADMINISTERED BY OFFICIAL STATE AGENCIES AND U.S. DEPARTMENT OF AGRICULTURE

FIGURE 1.

SEC. 145.4 **General provisions for all participants.** (a) Records of purchases and sales and the identity of products handled shall be maintained in a manner satisfactory to the Official State Agency.

(b) Products, records of sales and purchases of products, and material used to advertise products shall be subject to inspection by the Official State Agency at any time.

(c) Advertising must be in accordance with the Plan, and applicable rules and regulations of the Official State Agency and the Federal Trade Commission. A participant advertising products as being of any official classification may include in his advertising reference to associated or franchised hatcheries only when such hatcheries produce the same kind of products of the same classification.

(d) Participants may not buy or receive for any purpose products from non-participants, or sell products of non-participants, except with the permission of the Official State Agency for use in breeding flocks or for experimental purposes.

(e) The minimum weight of chicken hatching eggs sold shall be $1^{11}/_{12}$ oz. each for replacement stock and $1^{10}/_{12}$ oz. each for broiler stock, except as otherwise specified by the purchaser of the eggs.

(f) Each shipment of products to points outside the continental United States shall be accompanied by a properly executed Form NPIP–15F, Report of Sales of Hatching Eggs, Chicks and Poults (For Shipment Outside the United States).

SEC. 145.5 **Specific provisions for participating flocks.** (a) Poultry houses and the land in the immediate vicinity thereof shall be kept in sanitary condition acceptable to the Official State Agency.

(b) All flocks shall consist of healthy, normal individuals characteristic of the breed and variety, cross, or other combination which they are stated to represent.

(c) A flock shall be deemed to be a participating flock at any time only if it has been officially blood tested within the past 12 months with no pullorum or typhoid reactors on the last test. (See sec. 145.14 relating to the official blood test.)

(d) Each bird shall be identified with a sealed and numbered band obtained through or approved by the Official State Agency, provided that exception may be made at the discretion of the Official State Agency.

SEC. 145.6 **Specific provisions for participating hatcheries.**

(a) Hatcheries, including brooder rooms, shall be kept in sanitary condition, acceptable to the Official State agency. The minimum requirements with respect to sanitation shall include the following:

(1) Incubator walls, floors and trays shall be kept free from broken eggs and egg shells.

(2) Tops of incubators and hatchers shall be kept clean (not used for storage).

(3) Entire hatchery, including sales room, shall be kept in a neat,

orderly condition and free from accumulated dust.

(4) Hatchery residue such as egg shells, infertile eggs and dead germs shall be disposed of promptly.

(5) Hatchers and hatching trays shall be cleaned and fumigated or disinfected after each hatch.

(b) A hatchery which keeps started poultry (poultry that has been fed or watered) must keep such poultry separated from the incubator room in a manner satisfactory to the Official State Agency.

(c) All chicks offered for sale under Plan terminology shall be normal and typical of the breed and variety, cross, or other combination represented.

(d) Eggs incubated shall be sound in shell, typical for the breed and variety, strain, or cross thereof and reasonably uniform in shape. Mediterranean breed eggs shall be reasonably free from tints. Hatching eggs shall be trayed and the chicks boxed with a view to uniformity of size.

(e) All hatcheries within a State which are operated under the ownership or management of the same person or persons or related corporations, or in which the same person or persons have a substantial financial interest as partners or otherwise, shall participate in the Plan if any of them are to participate. All breeding and supply flocks, hatching eggs and chicks of such hatcheries shall meet the same pullorum-typhoid classification.

Sec. 145.7 **Specific provisions for participating dealers.** Dealers in chicken breeding stock or hatching eggs or chicks shall comply with all provisions in this part which apply to their operations.

Sec. 145.8 **Terminology and classification; general.** (a) The official classification terms defined in sections 145.9 and 145.10 and the various designs illustrative of the official classifications as reproduced in section 145.10 may be used only by participants and to describe products that have met all the specific requirements of such classifications.

(b) Products produced under the Plan shall lose their identity under Plan terminology when they are purchased for resale by, or consigned to, nonparticipants.

(c) Participating flocks and the eggs and chicks produced from them may be designated by their strain or trade name. When a breeder's name or strain designation is used, the participant shall be able by records to substantiate that the products so designated are from flocks that are composed of either (1) birds hatched from eggs produced under the direct supervision of the breeder of such strain; or (2) stock multiplied by persons designated and so reported by the breeder to each Official State Agency concerned.

(d) Domesticated waterfowl, game birds and guineas meeting the requirements for participation for any of the classifications specified in section 145.10 may be designated as coming within such classification.

Sec. 145.9 **Terminology and classification; hatcheries and dealers.** Participating hatcheries and dealers shall be designated as "National Plan Hatchery" and "National Plan Dealer", respectively.

Sec. 145.10 **Terminology and classification; flocks and products.** Participating flocks, and the eggs and chicks produced from them, which have met the respective requirements specified in this section may be designated by the following terms or illustrative designs:

(a) **U. S. Record of Performance.** Females meeting prescribed standards for performance as individuals or families as provided in section 145.16 or males meeting the requirements in section 145.17.

(b) **U. S. Performance Tested Parent Stock.** Stock meeting the

requirements prescribed in section 145.24.

FIGURE 2.

FIGURE 3.

(c) **U. S. Certified for Eggs.** (1) All males ROP, or (2) all males and females from Performance Tested Parent Stock for egg production mated in the same combination as used in the qualifying parent flock.

FIGURE 4.

(d) **U. S. Certified for Meat.** All males and females from Performance Tested Parent Stock for meat production mated in the same combination as used in the qualifying parent flock.

FIGURE 5.

(e) **U. S. Approved.** All males and females selected by Authorized Agents according to standards prescribed by the Official State Agency or the State College of Agriculture.

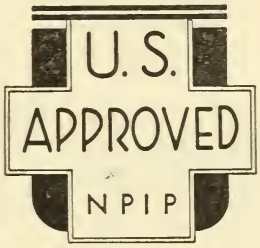

FIGURE 6.

(f) **U. S. Pullorum-Typhoid Passed.** Flocks in which no pullorum or typhoid reactors were found on the last official blood test provided for in section 145.5 (c).

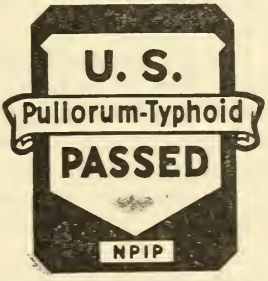

FIGURE 7.

(g) **U. S. Pullorum-Typhoid Clean.** Flocks in which no pullorum or typhoid reactors were found on the first official blood test provided for in section 145.5 (c):

Provided, That if a reactor or reactors are found on the first test the flock may qualify with two consecutive official negative tests. In order to sell hatching eggs or chicks of this classification all hatching eggs and chicks handled must meet these requirements.

FIGURE 8.

SEC. 145.11 **Supervision.** (a) The Official State Agency may designate qualified persons as Authorized Agents to do the selecting, blood collecting and blood testing work provided for in sections 145.5, 145.10, and 145.14.

(b) The Official State Agency shall employ or authorize qualified persons as State Inspectors to perform, or supervise the performance of, the selecting and testing of participating flocks and to perform the official inspections necessary to verify compliance with the requirements of the Plan.

SEC. 145.12. **Inspections.** (a) Each participating hatchery shall be inspected a sufficient number of times each year to satisfy the Official State Agency that the operations of the hatchery are in compliance with the provisions of the Plan.

(b) Each year a sample of the flocks selected or tested by each Authorized Agent shall be inspected by a State Inspector. This must include the inspection of a minimum of 15 percent of the flocks of each hatchery. Each flock inspection shall include the examination of a sufficient number of males and females and, in flocks qualified for participation by the whole-blood test, the blood testing of a sufficient number of birds, to determine whether the work of the Authorized Agent was satisfactory and that the flock is qualified for participation.

SEC. 145.13 **Debarment from participation.** Non-compliance with the provisions of the Plan, or regulations of the Official State Agency under section 145.2, not corrected within the time specified by the Official State Agency, shall be grounds for the Official State Agency to bar a participant from further participation for a period to be determined in each case by the Official State Agency. Such action shall not be taken until a thorough investigation has been made by the Official State Agency and the participant has been given an opportunity for a hearing.

SEC. 145.14 **Blood testing.** (a) The official blood test shall be the standard tube agglutination test, the rapid serum test, or the stained-antigen, rapid, whole-blood test, conducted by an Authorized Agent or State Inspector. The recommended procedures for conducting such tests are described in Subpart A, Part 147, of this chapter. Each lot of antigen used for the whole-blood test shall be approved by the Department and shall be of the polyvalent type.

(b) There shall be an interval of at least 21 days between any official blood test and any previous test with pullorum-typhoid antigen.

(c) All chickens to be used as breeders must be tested when more than five months of age.

(d) All domesticated fowl on the farm of the participant shall either be properly tested to meet the same standards as the participating flock or these birds and their eggs shall be separated from the participating flock and its eggs.

(e) All tests with Salmonella antigens of flocks participating in or candidates for participation in the Plan shall be reported to the Official State Agency within 10 days following the completion of such tests. All reactors shall be considered in determining the classification of the flock.

(f) Reactors may be submitted to a laboratory for autopsy and bacteriological examination. The laboratory and the number of reactors to be submitted shall be designated by the Official State Agency. The recommended minimum procedure for bacteriological examination is described in Subpart B, Part 147 of this chapter. When reactors are submitted within 10 days from date of reading the test and the bacteriological examination fails to demonstrate pullorum or typhoid infection, the flock shall be deemed to have had no pullorum or typhoid reactors. If other members of the Salmonella group or paracolons are isolated, the Official State Agency may disqualify the flock for participation, or require such other action as is deemed necessary with respect to the infection.

Sec. 145.15 **USROP; general.** (a) The ROP classification may be attained by the qualification of individual birds through trapnesting and pedigree breeding under the supervision of an Official State Agency.

(b) Any person who, in the opinion of the Official State Agency, has the facilities for conducting a systematic program of poultry breeding is eligible for ROP participation.

(c) Candidates may consist of any breed and variety, strain or cross thereof.

(d) Birds trapnested for qualification on the basis of either 10 months or 365 days of trapnesting may be withdrawn within 4 months after the date of the first egg laid by the family, provided the entire (dam) family is withdrawn.

(e) The average egg weight of all birds entered (to be reported in the annual summary) shall be based on the average of not less than the first five and not more than the first ten individual egg weights taken by the breeder and ROP inspector at a time previously agreed upon by the breeder and Official State Agency.

(f) Participants are encouraged to enter central and on-the-farm random sample tests annually as a further measure of the performance of their stock. Entries to be reported in the annual ROP summary in addition to or in lieu of the candidate report shall be so designated by the participant, to the ROP Supervisor, prior to the beginning of the test.

Sec. 145.16 **USROP; qualification of females.** (a) Females may qualify as ROP females as follows:

(1) If an individual bird has laid at the rate of 60 percent or more during a period of at least 10 consecutive months, when trapnested a minimum of five days per month and a minimum of 100 days; or

(2) If the members of an entire family of six or more full sisters have laid at an average rate of 65 percent or more during a period of at least 10 consecutive months, when trapnested a minimum of five days per month and a minimum of 100 days; or

(3) If the members of an entire family of eight or more full sisters have laid at an average rate of 70 percent or more when trapnested a minimum of five days per week and a minimum of 13 consecutive weeks.

(b) The trapnest period for each bird shall start with the first egg laid in a trapnest by such bird.

Sec. 145.17 **USROP; qualification of males.** A male may qualify as an ROP male provided:

(a) The pedigree record and wing band shall show that he was produced from an ROP sire and an ROP dam in a single-male mating, except that for beginning ROP participants a male may qualify on other bases acceptable to the Official State Agency and the AH Division, such as having a full sister family meet the requirements of section 145.16 (a) (2) or (3); and

(b) In any event the male shall meet the following physical requirements:

(1) Exhibit health and constitutional vigor and show no evidence of any disease, for example, misshapen pupil or deformed leg indicative of leukosis;

(2) Show no serious physical deformities such as crooked back, wry tail, crooked beak, extremely crooked breast bone or toes; and

(3) Be reasonably representative of the breed and variety and meet the minimum weight standards as currently specified in the Standard of Perfection published by the American Poultry Association.

Sec. 145.18 **USROP; sale of products.** When products are sold or offered for sale under the ROP classification:

(a) The breeder must have on file evidence that such products are from single male matings of qualified ROP males and ROP females.

(b) A copy of such evidence, including records of egg production, hatching and pedigree, must be submitted routinely to the Official State Agency.

(c) Eggs sold, or set for the sale of chicks or stock, shall weigh at least $1\frac{11}{12}$ ounces each.

(d) Reports of trapnest records shall be in terms of percent production, except that records based on 3-, 4-, 5-, 6-, or 7-day-a-week-trapnesting for a 365-day trapnest period, may be reported in number of eggs. Only records which result from trapnesting the same days of each week may be converted to number of eggs. Reports of trapnest records referred to in advertising or in any other way shall show the length of the qualifying period on which such records were based.

Sec. 145.19 **USROP; annual summary.** The ROP Supervisor shall submit to the AH Division for publication:

(a) For ROP participants having an entry in a central or on-the-farm egg production test as provided in section 145.15 (f), the report specified in section 145.26 (a).

(b) For ROP participants having no entry in a central or on-the-farm egg production test as provided in section 145.15 (f) and for other participants at their request a report comprised of the following:

(1) Breed and variety of the entry (indicate if the entry is a crossbred or strain cross);

(2) Total number of pullets of this breed and variety on the farm;

(3) Basis of qualifying ROP females as provided in section 145.16:

(i) Individual birds producing 219 eggs in 365 days based on 3 or more days of trapnesting a week;

(ii) Individual birds otherwise meeting the requirement of 60 percent production during at least 10 consecutive months;

(iii) Families of 6 or more meeting the requirement of 65 percent production during at least 10 consecutive months;

(iv) Families of 8 or more meeting the requirement of 70 percent production during at least 13 consecutive weeks;

(4) Number of birds of this breed and variety originally trapnested for ROP entry;

(5) Number of birds withdrawn;

(6) Number of birds entered in ROP;

(7) Number of birds entered which were individually pedigreed;

(8) Number meeting the ROP requirements;

(9) Percentage of birds entered meeting the ROP requirements;

(10) Percentage of birds entered meeting the ROP requirements on 365-day basis;

(11) Average egg production of all birds entered for qualification on basis of 10 months or 365 days reported in percentage production and number of eggs, respectively.

(12) Average egg weight of all birds entered;

(13) Average body weight of all birds entered (optional with the breeder).

Sec. 145.20 **USROP; duties of ROP Supervisor.** The ROP supervisor shall represent the Official State Agency in its supervision of ROP participation. His duties shall include:

(a) Keeping on file in his office for at least five years a record of:

(1) All qualified males, with at least one-generation pedigree showing records of egg production of the female ancestors;

(2) All qualified females with records of their egg production for their qualifying period; and

(3) All single-male matings.

(b) Submitting the reports required in section 145.19.

Sec. 145.21 **USROP; duties of ROP Inspector.** The ROP Inspector shall work under the direction of the ROP Supervisor. He shall:

(a) Visit, and inspect the work of each breeder at least four times a year, his visits to be so timed that each season of the year shall be represented and at least three of these visits shall be unannounced.

(b) Trapnest on each inspection enough pens of ROP candidates to satisfy the Official State Agency as to the accuracy of the breeder's trapnest records;

(c) During the official egg weighing period for the breeder provided under section 145.15 (e), weigh and record the weight of the eggs laid by each bird trapnested;

(d) Examine hens apparently out of production and determine whether they are being credited with eggs;

(e) During the breeding season, examine all birds in single-male matings to see that the birds which constitute these matings are properly listed with the supervisor;

(f) Compare the number of eggs being incubated from each hen with the number she is credited with having laid during the corresponding period, and subsequently with the number of chicks recorded as hatched and wing-banded. (He shall have the authority to examine for fertility the eggs being incubated.);

(g) Make an annual inspection of pedigree-hatching facilities and methods and chick-banding techniques.

Sec. 145.22 **U. S. Performance Tested Parent Stock; general.** (a) The Performance Tested Parent stock classification may be attained by the qualification of flocks through the performance of their progeny in a central or multiple unit random sample test, as specified in sections 145.27, 145.28 and 145.29, or in any other central or multiple unit random sample test approved for this purpose by the Department. Compliance with the provisions of sections 145.27, 145.28 or 145.29 shall be a basic requirement for approval: *Provided*, That tests conducted by agencies other than Official State Agencies may be approved.

(b) Any person who, in the opinion of the Official State Agency, is conducting a systematic program of poultry breeding is eligible for participation. The application for qualification shall be made by the breeder of the parent stock but the sample may be taken from any source approved by the breeder for the production of the grade to be tested.

Sec. 145.23 **U. S. Performance Tested Parent Stock; entry.** (a) The entry may consist of any breed, variety or strain or cross thereof, or hybrid combination; provided the grade designated for entry is produced and available in commercial quantities, or is clearly designated as experimental stock not available in commercial quantities.

(b) Candidates for flock qualification as Performance Tested Parent Stock for egg production shall be represented by an entry in a central or multiple unit random sample egg production test.

(c) Candidates for flock qualification as Performance Tested Parent Stock for meat production shall be represented by an entry in a central random sample meat production test.

(d) The entry representing candidates for flock qualification as Performance Tested Parent Stock shall be so designated by the participant to the Official State Agency prior to the beginning of the test. The designation shall be made in ample time for the Official State Agency to notify the appropriate test supervisor of the names of entrants and request notice of dates for submission of samples so arrangements can be made for their selection in accordance with the requirements of the Plan.

(e) The entry shall consist of a random sample of eggs selected by a representative of the Official State Agency in accordance with the following procedures:

(1) Determine from Official State Agency records the number and location of all flocks within the State supplying eggs of the grade to be tested. By a process of drawing at random names or assigned numbers, determine from which of these flocks the sample is to be taken. The flock or flocks from which the sample is taken must include at least 1,000 birds.

(2) The eggs shall be taken from the nests in proportion to the number of birds in each house or pen.

(3) The sample shall not include eggs which, in the opinion of the sample taker, are unsuitable for hatching.

(4) The sample shall be placed in an appropriate container and the container sealed with a distinctive seal or sealing tape by the sample taker.

(5) The sample taker shall furnish the Official State Agency and the test supervisor with a detailed report of the procedures followed in obtaining each sample.

Sec. 145.24 **U. S. Performance Tested Parent Stock; flock qualification.** (a) Flocks offered for qualification under sections 145.22 and 145.23 and for which reports have been made as required by section 145.26 may qualify as:

(1) Performance Tested Parent Stock for egg production when such stock represented in an officially recognized central or multiple unit random sample egg production test by an entry which ranked in the upper one-fourth of the entries, or was not significantly different from the top entry in income above feed and chick costs per pullet chick started.[1] (When the breeder has entries in more than one central or multiple unit random sample test, qualification shall be based upon the average rank in all such tests.)

(2) Performance Tested Parent Stock for meat production when such stock represented in an officially recognized random sample meat production test by an entry which ranked in the upper one-fourth of the entries, or was not significantly different from the top entry in average rate of egg production on hen-housed basis and in rate of growth.[1] (When the breed-

[1] Significance of difference shall be determined by a suitable mean separation procedure such as the Duncan's Multiple Range Test at the 5 percent level of significance.

er has entries in more than one central or multiple unit random sample test, qualification shall be based upon the average performance records in all such tests.)

(b) Any entry for which the results have been invalidated and so indicated in the published test report by the test management will not be considered in compiling performance averages for qualification.

(c) Qualification for the U. S. Performance Tested Parent Stock classification shall be determined by the AH Division from records submitted by supervisors of approved tests; and that Division shall notify each entrant and his Official State Agency of his qualification or failure to qualify.

(d) Stock classified as Performance Tested Parent Stock may retain that classification for one year after classification, provided the stock is maintained under the supervision of the qualifying breeder, and is mated in the same combination, and for one more year when, in addition, the stock has been continuously represented by an entry as provided in section 145.23.

Sec. 145.25 **U. S. Performance Tested Parent Stock; sale of products.** When products are sold or offered for sale as Performance Tested Parent Stock, the breeder shall be able to substantiate by records filed with the Official State Agency that such products are from matings qualified as Performance Tested Parent Stock.

Sec. 145.26 **U. S. Performance Tested Parent Stock; annual summary.** The Official State Agency shall submit to the AH Division, for publication, whichever of the following reports are appropriate for each entry:

(a) An egg production test report shall comprise the following:

(1) Name and location of test;

(2) Breed and variety of entry (indicate if the entry is a crossbred, strain cross, or hybrid combination);

(3) Breeder's grade designation of chicks entered;

(4) Total number of females in the flock or flocks from which sample was drawn;

(5) Number of pullet chicks started;

(6) Number of pullets housed;

(7) Age at housing (age records started);

(8) Age at which pullets attained 50 percent production;

(9) Average egg weight at 240 days of age;

(10) Average egg production to 500 days of age, hen-housed basis, number and percent;

(11) Average egg production in number of eggs to 500 days of age, hen-day basis;

(12) Adult mortality;

(13) Average egg weight based on one or more weighings at 11 to 13 months of age;

(14) Average body weight based on one or more weighings at 11 to 13 months of age;

(15) Interior egg quality data, if available and requested by breeder;

(b) A meat production test report shall comprise the following:

(1) For the growing phase:

(i) Name and location of test;

(ii) Duration of test (8 or 9 weeks);

(iii) Breed and variety of entry (indicate if the entry is a crossbred, strain cross, or hybrid combination);

(iv) Breeder's grade designation of chicks entered;

(v) Total number of females in flock or flocks from which sample was drawn;

(vi) Number of chicks started;

(vii) Mortality;

(viii) Average weight and variability of all pullets;

(ix) Average weight and variability of all cockerels;

(x) Number of cockerels dressed (at least 50 selected at random);

(xi) Average live weight of dressed cockerels;

(xii) Average New York dressed weight before chilling;

(xiii) Average eviscerated weight, if available;

(xiv) Number of Grade A, B, and C carcasses, based on fleshing; finish; and freedom from pinfeathers;[2]

(xv) Number of birds rejected due to crooked or dented keel, hunchback, misshapen bones, calluses and blisters, scabby or discolored backs, black, blue or green color showing through skin; and

(2) For the laying phase:

(i) Name and location of test;

(ii) Breeder's grade designation of entry (female parent stock);

(iii) Total number of females in flock or flocks from which sample was drawn;

(iv) Number of pullets housed;

(v) Adult mortality for 240 days;

(vi) Average egg production in percent for a period of 240 days, hen-housed basis;

(vii) Average egg production in percent for a period of 240 days, hen-day basis;

(viii) Average egg weight;

(ix) Hatchability.

Sec. 145.27 **Central random sample egg production test.** (a) A central random sample egg production test shall be conducted at a neutral location under the supervision of an Official State Agency and shall consist of entries from two or more participants and a control stock approved by the Department.

(b) The sample to be tested shall consist of a random sample of eggs selected by a representative of the Official State Agency from all flocks used to produce the grade of chicks to be tested.

(c) At least 50 pullet chicks, hatched from these eggs, shall be started for each entry.

(d) Pen egg production and mortality shall be recorded daily until the birds are 500 days of age.

(e) At the end of the test a summary for each entry shall be submitted by the Official State Agency to the AH Division, for publication, including the items specified in section 145.26 (a).

Sec. 145.28 **Multiple unit random sample egg production test.** (a) A multiple unit random sample egg production test shall be conducted at two or more locations under the supervision of an Official State Agency and shall consist of entries from four or more participants.

(b) The sample to be tested shall consist of a random sample of eggs or chicks selected by a representative of the Official State Agency from all flocks used to produce the grade of chicks to be tested.

(c) At least 60 pullet chicks shall be started for each entry at each of two or more locations.

(d) One entry at each test location shall be a common control stock.

(e) At housing time each entry may be divided into replicate pens at each test location.

(f) Pen egg production and mortality shall be recorded daily until the birds are 500 days of age.

(g) Body weight shall be obtained at housing time and at the conclusion of the test.

(h) At the end of the test a summary for each entry shall be submitted by the Official State Agency to the AH Division for publication, including the items specified in section 145.26 (a).

Sec. 145.29 **Central random sample meat production test.** (a) A central random sample meat production test shall be conducted at a

[2] The grading will be based on United States Classes, Standards and Grades for Poultry as contained in 7 CFR, Part 70, Subpart B.

neutral location under the supervision of an Official State Agency and shall consist of entries from two or more participants and a control stock approved by the Department.

(b) The sample shall be selected by a representative of the Official State Agency and (1) for the growing phase shall consist of a random sample of eggs selected from all flocks used to produce the grade of chicks to be tested; and (2) for the laying phase shall consist of a random sample of eggs, or chicks, or 4–6 month-old pullets selected at random from the female parent stock.

(c) Hatchability shall be based on eggs hatched for the growing phase.

(d) At least 250 straight-run chicks shall be started in the growing phase for each entry.

(e) At leat 50 pullets or pullet chicks shall be started in the laying phase for each entry.

(f) Pen egg production and mortality shall be recorded daily for a period of 240 days.

(g) The duration of the growing test shall be either 8 or 9 weeks.

(h) At either 8 or 9 weeks of age individual body weights shall be recorded by sex for the growing phase entry. At this time a minimum of 50 cockerels shall be selected at random and dressed under the supervision of the Official State Agency.

(i) At the end of the test a summary for each entry shall be submitted by the Official State Agency to the AH Division, for publication, including the items specified in section 145.26 (b).

Sec. 145.30 **On-the-farm performance tests; general.** (a) These tests shall be conducted under the supervision of the Official State Agency on the breeder's farm or at some other location under his control.

(b) Good but not impractical commercial conditions shall prevail.

(c) The entries shall be selected by a representative of the Official State Agency and each bird shall be identified with an official, sealed and numbered band at the time of selection.

(d) Accurate mortality records shall be kept for the duration of the test, and any bird removed from the test pen shall be considered as a mortality.

(e) Trapnesting of the entry shall be optional with the participant.

(f) There shall be a minimum of four unannounced inspections by a State Inspector, with at least two during the period when egg weights and body weights are recorded (11 to 13 months of age).

(g) The inspector shall determine the number of eggs laid on the day of inspection as a check on the accuracy of the breeder's records.

(h) The inspector shall weigh, either individually or as a lot, the eggs laid on the days of inspection during the period when egg weights are taken, and the average egg weight shall be computed from these weights.

(i) The entry shall be housed as a unit in a separate pen or building during the time egg production is being recorded.

(j) At the end of an on-the-farm test a summary for each entry shall be submitted by the Official State Agency to the AH Division for publication, including for an egg production test the items specified in section 145.26 (a) and for a meat production test the items specified in section 145.26 (b).

Sec. 145.31 **On-the-farm performance test; egg production.** (a) An entry shall consist of at least 125 pullet chicks selected at random by a representative of the Official State Agency and identified

with sealed official wing bands at hatching time.

(b) Pen egg production shall be recorded daily until the birds are 500 days of age.

(c) The inspector shall weigh the pullets, either individually or as a lot, on one of the days of inspection during the period when the birds are 11 to 13 months of age, and the average body weight shall be computed from these weights.

Sec. 145.32 **On-the-farm performance test; meat production.** (a) The entry shall consist of:

(1) 250 or more straight-run chicks of the grade to be tested, selected at random by a representative of the Official State Agency from those produced by all mated pullets used to produce the grade of chicks to be tested; and

(2) 100 or more pullets selected at random at 4 to 6 months of age from the female parent stock of the chicks to be tested.

(b) The duration of the test shall be either 8 or 9 weeks.

(c) The chicks shall be floor brooded for the duration of the test with no more than 1½ square feet of floor space per bird.

(d) The inspector shall weigh and record the weight and sex of each bird at the conclusion of the test. At this time a minimum of 50 cockerels shall be selected at random and dressed under the supervision of the inspector.

(e) Pen egg production and mortality shall be recorded daily for a period of 240 days.

(f) Hatchability shall be determined by the inspector by checking at random, the hatchability of at least 1,000 eggs from those produced by all mated pullets used to produce the grade of chicks to be tested.

(g) The entrant shall be disqualified by any misrepresentation, falsification or use of artificial practices (except light) such as plumping, hormones, etc.

Sec. 145.33 **National random sample performance testing program.** The national random sample performance testing program embodies the operation of central or multiple unit performance tests available to any poultry breeder in accordance with the following provisions:

(a) The tests shall be conducted cooperatively by the Department and a State Agricultural Experiment Station or other State Agency approved for the purpose by the Department.

(b) The program shall be conducted under the supervision and control of a governing board, which shall be composed of:

(1) Members nominated and elected by persons participating in the testing program and approved by the cooperating agencies; and

(2) One ex officio member from each cooperating agency.

(c) The detailed plan of operation of the tests subject to the approval of the governing board shall be as follows:

(1) The test shall be available to any poultry breeder approved by the governing board. The entry shall be limited, however, to flocks certified, by an agency recognized by the governing board, as negative to a pullorum test.

(2) The breeder may carry on any type of breeding program desired, including hybridization, crossbreeding, etc.

(3) The test management of each test shall attempt to provide similar environmental conditions at each test location for all entries.

(4) The test management of any central or multiple unit random sample test may rule that the results of one or more entries are invalid. The reason for such invalidation shall be a part of the published report.

(5) The results of both the egg production and meat phase shall be promptly published at the conclu-

sion of each year's test. The publication shall include an interpretation of the statistical validity of the results.

(6) The actual performance of each reportable item shall be published rather than a ranking based on one character or combination of characters.

(7) All entries shall consist of sufficient hatching eggs to produce 125 pullet chicks.

(8) Hatching eggs shall be selected at random by a disinterested person designated by the test management.

(9) Hatching eggs shall be selected from those used to produce a designated commercial grade of the breeder's chicks.

(10) The type of entry shall be designated as: "single-strain purebred" (suitable for use in breeding flocks) or "others".

(11) The eggs shall be set on a date determined by the governing board.

(12) Records shall be kept on the fertility and hatchability of the eggs submitted.

(13) Chicks shall be reared intermingled to housing time. The same number of chicks from each entry to be brooded and reared together.

(14) All birds removed from the test pen except males resulting from errors in sexing shall be considered as mortality. (When males are removed the number of chicks entered shall be adjusted accordingly.)

(15) Rearing mortality shall be based on the period from hatching to housing date.

(16) Laying house mortality shall be based on the period from housing to the conclusion of the test.

(17) All sick or dead birds removed from the test shall be autopsied.

(18) Each entry shall be housed not later than 160 days of age and until the end of the test period.

(19) All eggs laid subsequent to housing shall be credited to the entry.

(20) Production records shall be kept from the date of housing until the conclusion of the test, but in no case less than 500 days of age.

(21) Egg weight shall be determined by grading the eggs into the market grades, with respect to weight only. The eggs from each entry shall be graded one day a week from laying to February 1, and one day a month thereafter.

(22) Body weight shall be determined at housing time and at the conclusion of the test by bulk weighing the pullets.

(23) Egg quality data shall be collected one day a month during the 8th, 10th, 12th and 14th months of age. This shall be based on measurements of all the eggs laid that day and shall include the following:

(i) Egg shape;

(ii) Shell thickness;

(iii) Meat and blood spots; and

(iv) Albumen quality (broken out basis).

(24) Feed consumption data shall be recorded from housing to the end of the test. All-mash rations approved by the test management shall be fed throughout the test.

(25) For an entry in the meat production phase, the following additional provisions shall apply:

(i) Twenty-four (24) male chicks of the male line used to produce the meat production chicks shall be started at hatching time.

(ii) Of the 24 males, eight males shall be selected and mated with the pullet entry at housing time. Rotating or shifting the males is desirable in which case 16 males would be used.

(iii) Eggs shall be collected and hatched from the test pen a minimum of twice a year and as many more times as feasible with available facilities.

(iv) A sufficient number of eggs shall be set to produce 200 straight run chicks. This figure may be modified, depending on the number of entries to be tested, the facilities avaliable, and the number of growth trials to be conducted annually.

(v) Chicks referred to in subdivision (iv) of this subparagraph shall be reared to 10 weeks of age at which time the entire lot shall be dressed.

(26) Additional details to apply to the growing test of the meat production phase are as follows:

(i) Hatchability and fertility data shall be obtained for the eggs collected for the production of chicks for the growing test.

(ii) Livability shall be determined for the periods of hatching to two weeks of age and two weeks to 10 weeks of age.

(iii) Feed consumption to 10 weeks of age shall be collected, assuming that each entry can be reared separately.

(iv) The following additional data shall be collected at 10 weeks by sexes:

(*a*) Individual live body weights.

(*b*) New York dressed weight of entire lot.

(*c*) Eviscerated weight of entire lot.

(*d*) Percent of birds of Grade A, B, and C for fleshing; for finish; and for freedom from pinfeathers.[3]

Part 146—National Turkey Improvement Plan (Turkeys and Certain Other Poultry)

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146.26 USROP; sale of products.
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146.29 Turkey reproduction test.
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SEC. 146.1 **Definitions.** Except where the context otherwise requires, for the purposes of this Part the following terms shall be construed, respectively, to mean:

(a) **Plan.** The provisions of the National Turkey Improvement Plan contained in this Part.

(b) **Person.** A natural person, firm, or corporation.

(c) **Department.** The United States Department of Agriculture.

(d) **AH Division.** The Animal Husbandry Research Division of the Agricultural Research Service of the Department.

[3] The grading will be based on U. S. Classes, Standards, and Grades for Poultry as contained in 7 CFR Part 70, Subpart B.

(e) **State.** Any State, the District of Columbia, Alaska, Hawaii, or Puerto Rico.

(f) **Official State Agency.** The State authority recognized by the Department to cooperate in the administration of the Plan.

(g) **State Inspector.** Any person employed or authorized under section 146.11 (b) to perform functions under this Part.

(h) **Authorized Agent.** Any person designated under section 146.11 (a) to perform functions under this Part.

(i) **ROP Supervisor.** The person employed or authorized to perform functions under section 146.27.

(j) **ROP Inspector.** The person employed or authorized to perform functions under section 146.28.

(k) **Affiliated flockowner.** A flockowner who is participating in the Plan through an agreement with a participating hatchery.

(l) **Flock**—(1) **As applied to breeding.** All turkeys of one kind of mating (variety or combination of stocks) and of one classification on one farm;

(2) **As applied to disease control.** All of the turkeys on one farm, except that at the discretion of the Official State Agency, any group of turkeys which is segregated from another group and has been so segregated for a period of at least 21 days may be considered as a separate flock.

(m) **Hatchery.** Hatchery equipment on one premise operated or controlled by any person for the production of poults.

(n) **Products.** Turkey breeding stock and hatching eggs, and poults.

(o) **Baby poults.** Poults that have not been fed or watered.

(p) **USROP or ROP.** U. S. Record of Performance.

(q) **Strain.** Turkey breeding stock bearing a given name produced by a breeder through at least five generations of closed flock breeding.

(r) **Trade name or number.** A name or number compatible with State or Federal laws and regulations applied to a specified stock or product thereof, and which has been filed with the Official State Agency together with a description of such stock.

(s) **Broad-breasted.** A term used to describe a type of turkey which at the time of selection, and no later than 30 weeks of age, has a breast width at a point 1¾ inches above the keel of at least 3½ inches, for both toms and hens.

Sec. 146.2 **Administration.** (a) The Department cooperates through a Memorandum of Understanding with Official State Agencies in the administration of the Plan.

(b) The Official State Agency shall carry out the administration of the Plan within the State according to the applicable provisions of the Plan and Memorandum of Understanding. An Official State Agency may accept for participation an affiliated flock located in another State under a mutual understanding and agreement between the two Official State Agencies regarding conditions of participation and supervision.

(c) The Official State Agency of any State may adopt regulations applicable to the administration of the Plan in such State further defining the provisions of the Plan or establishing higher standards compatible with the Plan.

Sec. 146.3 **Participation.** (a) Any person producing or dealing in poultry products may participate in the Plan when he has (1) demonstrated, to the satisfaction of the Official State Agency, that his facilities, personnel, and practices are adequate for carrying out the applicable provisions of the Plan; and (2) signed an agreement with the Official State Agency to comply

with the general and the applicable specific provisions of the Plan and any regulations of the Official State Agency under section 146.2. Affiliated flockowners may participate without signing an agreement with the Official State Agency.

(b) Each participant shall comply with the Plan throughout the operating year of the Official State Agency, or until released by such Agency.

(c) A participant in any State shall participate with all of his turkey hatching egg supply flocks and hatchery operations within such State.

(d) No person shall be compelled by the Official State Agency to qualify products for any of the classifications described in section 146.10 (a), (b), (c) and (d) as a condition of qualification for either of the classifications described in section 146.10 (e) and (f).

(e) Participation in the Plan shall entitle the participant to use the Plan emblem reproduced below:

COOPERATING IN
The NATIONAL TURKEY IMPROVEMENT PLAN
ADMINISTERED BY OFFICIAL STATE AGENCIES AND U.S. DEPARTMENT OF AGRICULTURE

FIGURE 9.

SEC. 146.4. **General provisions for all participants.** (a) Records of purchases and sales and the identity of products handled shall be maintained in a manner satisfactory to the Official State Agency.

(b) Products, records of sales and purchases of products, and material used to advertise products shall be subject to inspection by the Official State Agency at any time.

(c) Advertising must be in accordance with the Plan and applicable rules and regulations of the Official State Agency and the Federal Trade Commission.

(d) Participants may not buy or receive for any purpose products from nonparticipants, or sell products of nonparticipants, except with the permission of the Official State Agency for use in breeding flocks or for experimental purposes.

(e) The minimum weight of turkey hatching eggs shipped interstate shall be 2⅓ ounces each for small varieties and 2½ ounces each for other varieties, unless otherwise specified by the purchaser of the eggs.

(f) When artificial insemination is used, its use and the extent of its use shall be stated in all performance reports.

(g) Standard and Broad Breasted turkeys of the same variety may not be kept for commercial production on the same premises or hatched for sale in the same hatchery.

(h) Each shipment of products to points outside the continental United States shall be accompanied by a properly executed Form NPIP–15F, Report of Sales of Hatching Eggs, Chicks and Poults (For Shipment Outside the United States).

SEC. 146.5 **Specific provisions for participating flocks.** (a) Poultry houses and the land in the immediate vicinity thereof shall be kept in sanitary condition acceptable to the Official State Agency.

(b) All flocks shall consist of birds that have been selected for health, vigor and freedom from physical deformities of economic importance by an Authorized Agent or State Inspector.

(c) A flock shall be deemed to be

a participating flock at any time only if it has been officially blood tested within the past 12 months with no pullorum or typhoid reactors on the last test. (See section 146.14 relating to the official blood test.)

(d) Each bird shall be identified with a sealed and numbered band obtained through or approved by the Official State Agency.

Sec. 146.6 **Specific provisions for participating hatcheries.** (a) Hatcheries, including brooder rooms, shall be kept in sanitary condition, acceptable to the Official State Agency. The minimum requirements with respect to sanitation shall include the following:

(1) Incubator walls, floors and trays shall be kept free from broken eggs and egg shells.

(2) Tops of incubators and hatchers shall be kept clean (not used for storage).

(3) Entire hatchery, including sales room, shall be kept in a neat, orderly condition and free from accumulated dust.

(4) Hatchery residue such as egg shells, infertile eggs and dead germs shall be disposed of promptly.

(5) Hatchers and hatching trays shall be cleaned and fumigated or disinfected after each hatch.

(b) A hatchery which keeps started poultry (poultry that has been fed or watered) must keep such poultry separated from the incubator room in a manner satisfactory to the Official State Agency.

(c) All poults offered for sale under Plan terminology shall be normal and typical of the variety, cross, or other combination represented.

(d) Eggs incubated shall be sound in shell and reasonably uniform in shape. Eggs shall be trayed and poults boxed with a view to uniformity of size.

(e) All hatcheries within a State which are operated under the ownership or management of the same person or persons or related corporations, or in which the same person or persons have a substantial financial interest as partners or otherwise, shall participate in the Plan if any of them are to participate. All hatching eggs and poults sold by such hatcheries shall be of the same pullorum-typhoid classification.

Sec. 146.7 **Specific provisions for participating dealers.** Dealers in turkey breeding stock or hatching eggs or poults shall comply with all provisions in this Part which apply to their operations.

Sec. 146.8 **Terminology and classification; general.** (a) The official classification terms defined in sections 146.9 and 146.10 and the various designs illustrative of the official classifications as reproduced in section 146.10 may be used only by participants and to describe products that have met all the specific requirements of such classifications. (See also section 146.16 (e).)

(b) Products produced under the Plan shall lose their identity under Plan terminology when they are purchased for resale by, or consigned to, non-participants.

(c) Participating flocks and the eggs and poults produced from them may be designated by their strain or trade name.

(1) A breeder's strain name may be used only when the flock is composed of (i) birds which were hatched from eggs produced under the direct supervision of the breeder or (ii) stock multiplied by persons designated and so reported by the breeder to each Official State Agency concerned.

(2) A breeder's trade name may be used only by persons authorized and so reported, to each Official State Agency concerned, by the breeder.

(d) Domesticated waterfowl, game birds and guineas meeting the

requirements for participation for any of the classifications specified in section 146.10 may be designated as coming within such classification.

Sec. 146.9 **Terminology and classification; hatcheries and dealers.** Participating hatcheries and dealers shall be designated as "National Plan Hatchery" and "National Plan Dealer," respectively.

Sec. 146.10 **Terminology and classification; flocks and products.** Participating flocks, and the eggs and poults produced from them, which have met the respective requirements specified in this section may be designated by the following terms or illustrative designs:

(a) **U. S. Record of Performance.** Males and females meeting prescribed standards as provided in sections 146.18 and 146.19. (Hatching eggs and poults designated as ROP must also meet the requirements specified in sections 146.23 and 146.24, respectively.)

Figure 10.

(b) **U. S. Performance Tested Parent Stock.** Flocks represented in both a turkey reproduction test as provided for in section 146.29 and in a central turkey meat production test as provided for in section 146.30 by entries that have met the following performance standards:

(1) Average poult production of at least 20 salable poults per hen in eight weeks;

(2) Poult livability to 8 weeks of age of at least 90 percent or above the average of the test.

(3) Market quality of U. S. Grade A, except for dressing and handling defects, for at least 90 percent, or above the average of the test, of all birds graded.

(4) Qualification for the U. S. Performance Tested Parent Stock classification shall be determined by the AH Division from records submitted by supervisors of central turkey meat production and turkey reproduction tests; and that Division shall notify each entrant and his Official State Agency of his qualification or failure to qualify.

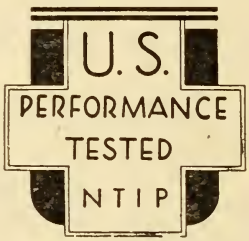

Figure 11.

(c) **U. S. Certified.** Flocks meeting one of the three following specifications:

(1) All males ROP or from ROP mass matings.

(2) Males and females from flocks composed of the following: ROP males or males from ROP mass matings mated to females from ROP qualified matings; or ROP mass matings; or ROP candidate matings in which 50 percent or more of the dam's family qualified for ROP. (Poults produced under this subparagraph for use in U. S. Certified flocks shall be properly identified at hatching time.)

(3) Males and females from Performance Tested Parent Stock. In case the tested stock is a cross of strains, the U. S. Certified flock shall be a combination of the same pure strains as used in the tested

flock. (Poults produced under this subparagraph for use in U. S. Certified flocks shall be properly identified at hatching time.)

FIGURE 12.

(d) **U. S. Approved.** All males and females selected by Authorized Agents according to standards prescribed by the Official State Agency or the State College of Agriculture.

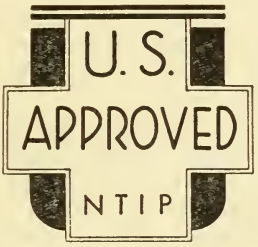

FIGURE 13.

(e) **U. S. Pullorum-Typhoid Passed.** Flocks in which no pullorum or typhoid reactors were found on the last official blood test provided for in section 146.5 (c).

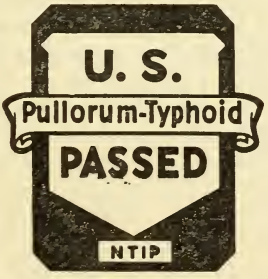

FIGURE 14.

(f) **U. S. Pullorum-Typhoid Clean.** Flocks in which no reactors were found on the first official blood test provided for in section 146.5 (c): *Provided*, That if reactors are found on the first test the flock may qualify with two consecutive official negative tests. In order to sell hatching eggs or poults of this classification, all hatching eggs and poults handled must be of this classification.

FIGURE 15.

SEC. 146.11 **Supervision.** (a) The Official State Agency may designate qualified persons as Authorized Agents to do the selecting and blood collecting provided for in sections 146.5, 146.10, and 146.14.

(b) The Official State Agency shall employ or authorize qualified persons as State Inspectors to perform, or supervise the performance of the selecting and testing of participating flocks and to perform the official inspections necessary to verify compliance with the requirements of the Plan.

SEC. 146.12 **Inspections.** (a) Each participating hatchery shall be inspected a sufficient number of times each year to satisfy the Official State Agency that the operations of the hatchery are in compliance with the provisions of the Plan.

(b) Each year at least 15 percent of the flocks selected and tested by Authorized Agents shall be inspected by a State Inspector. This must include the inspection of some

flocks of each hatchery. Each flock inspection shall include the examination of a sufficient number of males and females to determine whether the work of the Authorized Agent was satisfactory and that the flock is qualified for participation.

Sec. 146.13 **Debarment from participation.** Non-compliance with the provisions of the Plan, or regulations of the Official State Agency under section 146.2, not corrected within the time specified by the Official State Agency, shall be grounds for the Official State Agency to bar a participant from further participation for a period to be determined in each case by the Official State Agency. Such action shall not be taken until a thorough investigation has been made by the Official State Agency and the participant has been given an opportunity for a hearing.

Sec. 146.14 **Blood testing.** (a) In the official blood test, the blood shall be drawn by an Authorized Agent or State Inspector and tested by an authorized laboratory, using either the standard tube agglutination or rapid serum test. The recommended procedures for conducting such tests are described in Subpart A, Part 147, of this chapter.

(b) There shall be an interval of at least 21 days between any official blood test and any previous test with pullorum-typhoid antigen.

(c) All turkeys to be used as breeders must be tested when more than four months of age.

(d) All domesticated fowl on the farm of the participant shall either be properly tested to meet the same standards as the participating flock or these birds and their eggs shall be separated from the participating flock and its eggs.

(e) All tests with Salmonella antigens of flocks participating in or candidates for participation in the Plan shall be reported to the Official State Agency within 10 days following the completion of such tests. All reactors shall be considered in determining the classification of the flock.

(f) Reactors may be submitted to a laboratory for autopsy and bacteriological examination. The laboratory and the number of reactors to be submitted shall be designated by the Official State Agency. The recommended minimum procedure for bacteriological examination is described in Subpart B, Part 147 of this chapter.

When reactors are submitted within 10 days from date of reading the test and the bacteriological examination fails to demonstrate pullorum or typhoid infection, the flock shall be deemed to have had no pullorum or typhoid reactors. If other members of the Salmonella group or paracolons are isolated, the Official State Agency may disqualify the flock for participation, or require such other action as is deemed necessary with respect to the infection.

(g) After a flock has been classified by the Official State Agency the results of any retesting of such flock during the current breeding and hatching season shall not adversely affect its classification for the season, except that if in the opinion of the Official State Agency the amount of reaction found in any flock is such as to be dangerous or detrimental to the operation of the Plan, the Official State Agency shall require that such flock or flocks be retested after an interval of at least 21 days, or that use of such flocks as sources of eggs for participants be immediately discontinued. Furthermore, the Official State Agency may require that the hatching eggs from such flocks be removed from the incubator and destroyed prior to hatching.

Sec. 146.15 **USROP; general.** The ROP classification is based on records of egg production, hatchability, and body weight made on

the breeder's premises under supervision of the Official State Agency. Records made at State colleges of agriculture and State and Federal experiment stations may be recognized as ROP by Official State Agencies in qualifying birds for use of ROP breeders.

Sec. 146.16 **USROP; participation.** (a) Any person who, in the opinion of the Official State Agency, has the facilities for conducting a systematic program of turkey breeding is eligible for ROP participation.

(b) The participant's farm and all egg production, pedigree and sales records shall be subject at all times to unannounced inspections by the ROP Inspector.

(c) All young hens of the variety entered which are trapnested on the premises of an ROP participant shall be considered as entered in ROP.

(d) After the first two years of ROP participation, the participant shall maintain at least five candidate matings.

(e) The term "USROP" or "ROP" may be used in advertising products by any person only if he is an ROP participant and if his candidates have met all the requirements of this classification for the current or preceding season.

(f) The participant shall send to the ROP Supervisor not later than the tenth day of each month, a complete report of all trapnesting for the previous month. At the end of each four hatches, he shall also send to the ROP Supervisor on form NPIP 8 (or substitute form) a complete record of all pedigreed eggs set, poults hatched and poults banded.

Sec. 146.17 **USROP; candidate matings.** These matings shall be comprised of ROP candidate hens and ROP toms to which the following provisions apply:

(a) Each hen shall be identified with an official sealed and numbered band.

(b) Only one tom, or two full brothers, shall be allowed in a mating at any one time and the date of entry and removal of toms shall be properly recorded.

(c) The hens shall be trapnested at regular intervals each day for at least 8 consecutive weeks.

(d) Each egg shall be accurately identified as to the hen that laid it.

(e) For each hen an accurate record shall be kept of (1) the eggs laid during the trapnesting period; (2) the number of eggs sold; (3) the number of eggs incubated; (4) the number of poults hatched; and (5) the number of poults banded.

(f) Each hen shall be weighed by the breeder or the ROP Inspector about the time the candidate begins egg production, and the weight shall be recorded as the nearest whole number.

(g) The poults from these matings shall be banded with sealed and numbered official wing bands marked "Cand".

Sec. 146.18 **USROP; qualification of hens.** An ROP candidate hen which is a reasonably good representative of the variety in the judgment of the ROP Inspector, may qualify as an ROP hen if such candidate:

(a) Produces eggs at the rate of at least 50 percent for a period of at least eight consecutive weeks from the date the first normal egg is laid in a trapnest; and

(b) Produces eggs that hatch at the rate of at least 70 percent of all eggs set with a minimum of 20 poults hatched. The qualifying requirements for hatchability may be reduced to 65 percent when eggs are hatched at altitudes of 3,000 to 3,499 feet and to 60 percent at altitudes of 3,500 feet or more. All normal eggs produced by the candidate during the period of at least eight consecutive weeks agreed upon by the breeder and the ROP Supervisor

shall be set. Hatchability shall be expressed as a whole number (fractions rounded to the nearest whole number).

Sec. 146.19 **USROP; qualification of toms.** Toms may qualify for the ROP classification if they are:

(a) Produced from ROP poults or from candidate hens which subsequently qualify as ROP hens:

(b) Good representatives of the variety with strong constitutional vigor when examined by the ROP Inspector not earlier than at 22 weeks of age; and

(c) Banded with an ROP sealed and numbered leg band when passed by the Inspector.

Sec. 146.20 **USROP; exceptions to requirements for qualification.** (a) When any disastrous event occurs that affects the breeder's ROP work, and when such event is immediately brought to the attention of his Official State Agency, this agency may, with the consent of the AH Division, make an equitable adjustment in the application of the qualifying requirements to such breeder.

(b) To make it possible for a breeder to get started in ROP breeding work within his own strain, during the first year of such work on his farm the tom mated with ROP candidate hens in ROP candidate matings need not be an ROP tom provided he is of equal pedigree or is a U. S. Approved tom of outstanding quality. Such toms may be used in similar matings during the second year of ROP breeding work, if re-examined and passed by the ROP Inspector. No eggs or progeny from such a mating shall be sold as ROP products. Young toms whose dams qualify for ROP classification may head U. S. Certified flocks owned or controlled by the breeder and may head ROP qualified matings on the breeder's premises.

Sec. 146.21 **USROP; qualified matings.** These matings shall be comprised of ROP hens and ROP toms and shall be maintained in accordance with the provisions of section 146.17 (a), (b), (c), (d), and (e).

Sec. 146.22 **USROP; mass matings.** (a) These matings shall be comprised of ROP hens with hatchability records of 85 percent or more, and ROP toms produced from hens with hatchability records of 85 percent or more.

(b) Pen egg production and hatchability records shall be kept.

(c) Poults from these matings shall be identified with sealed wing bands marked "Mass mated."

Sec. 146.23 **USROP; hatching eggs.** Such eggs shall be from qualified ROP matings. Each egg shall be marked with the number of the ROP hen that laid it and the pen or tom number of the mating.

Sec. 146.24 **USROP; poults.** Such poults shall be those produced from ROP hatching eggs. The poults from each hen shall be individually pedigreed by the ROP breeder or ROP Inspector and identified with sealed and numbered official wing bands at the time of hatching.

Sec. 146.25 **USROP; participants producing ROP poults from purchased eggs.** Such participants shall:

(a) Within five days after incubation has begun, send to the Official State Agency a list of the ROP eggs purchased;

(b) Within 5 days after hatching time, send to the Official State Agency a list of the poults hatched from each dam and their respective wing band numbers.

Sec. 146.26 **USROP; sale of products.** (a) When ROP products are sold the seller shall, at the time of shipment, send to his ROP Supervisor a report in triplicate showing: (1) the name and address of the purchaser; (2) a list of the

products sold with the pen or sire number and dam number of each; and (3) the egg production, hatchability and body weight of each dam.

(b) These reports shall be verified by the ROP Supervisor, who shall retain one copy and send one copy to the purchaser and one to the Official State Agency of the State to which the products are shipped.

Sec. 146.27 **USROP; duties of ROP Supervisor.** The ROP Supervisor shall represent the Official State Agency in the supervision of ROP participation. He shall:

(a) Keep on file in his office for at least five years a record of (1) all ROP qualified toms, with at least one-generation pedigree showing ROP records of the female ancestors; (2) all ROP qualified hens, with records of their egg production, hatchability and body weight; (3) all ROP qualified and candidate matings; and (4) all ROP poults with at least one-generation pedigree;

(b) Furnish the AH Division, for publication, an annual summary of the ROP work under his supervision, which shall include the following information for each flock:

(1) Variety of the entry;

(2) Total number of young hens of this variety on the farm;

(3) Number of ROP candidate matings;

(4) Mating procedure: (Natural mating, artificial insemination or both);

(5) Number of young hens entered for ROP classification;

(6) Number of young hens meeting the ROP requirements;

(7) Percentage of young hens entered meeting the ROP requirements;

(8) Average rate of egg production in percent for all candidate hens;

(9) Average hatchability of all eggs set from all candidate hens.

Sec. 146.28 **USROP; duties of ROP Inspector.** The ROP Inspector shall work under the direction of the ROP Supervisor. He shall:

(a) Visit and inspect the work of each ROP breeder at least three times each year. (His visits shall be unannounced, and at least two shall be made during the trapnest period);

(b) On each visit during the trapnest period (1) do the trapnesting for the day; (2) record the eggs laid by all hens entered for ROP classification; and (3) examine hens apparently out of production and determine whether they are being credited with eggs;

(c) On at least one visit examine all birds in both ROP matings and ROP candidate matings to see that birds in these matings are properly listed with the supervisor;

(d) Compare the number of eggs being incubated from each hen with the number she is credited with having laid during the corresponding period and subsequently with the number of poults reported hatched and wingbanded. (He shall have authority to examine for fertility the eggs being incubated);

(e) Weigh each ROP candidate as provided in section 146.17 (f) or check the weights of a sufficient number of candidates weighed by the breeder to satisfy himself that such weights are correct.

(f) Examine all tom and hen candidates for ROP qualification and band with sealed and numbered leg bands all qualified birds to be used or sold as being of the ROP classification. The body weight and the wing- and leg-band numbers of all toms banded shall be recorded at the time of such examination and banding.

Sec. 146.29 **Turkey reproduction test.** A turkey reproduction test is a test of the reproductive (combination of egg production and hatchability) qualities of a representative sample of the entrant's stock conducted under the

supervision of the Official State Agency, in accordance with the following provisions:

(a) The test shall be available to any participant whose flock is qualified for the U. S. Pullorum-Typhoid Clean classification.

(b) The entry shall consist of at least 200 hens, penned separately, which are representative of the entrant's supply flocks or his breeder replacement flocks.

(c) All eggs produced by the entry during a period of at least eight consecutive weeks designated in advance by the entrant shall be incubated and complete records kept on the number of eggs produced, eggs set and salable poults hatched.

(d) The Official State Agency shall furnish the AH Division, for publication, the following information for each entry:

(1) Kind of stock (variety, strain or cross; supply flock or breeder replacement);

(2) Mating procedure: (Natural mating, artificial insemination or both);

(3) Number of breeder hens entered and total number in flocks which they represent;

(4) Average number of salable poults produced per hen entered at beginning of test.

Sec. 146.30 **Central turkey meat production test.** A central turkey meat production test is a test of a representative sample of the stock of two or more entrants, to fryer-roaster or mature marketing age, conducted under official supervision at a neutral location, in accordance with the following provisions:

(a) The test shall be available to any participant whose flock is qualified for the U. S. Pullorum-Typhoid Clean classification.

(b) The entry shall consist of at least 100 poults; 50 percent of each sex.

(c) A sufficient number of eggs, determined by the entrant, to produce the poults required for the entry shall be selected by a representative of the Official State Agency in accordance with the following procedure:

(1) Determine from Official State Agency records the flocks, and the number of birds in each, supplying eggs of the grade to be tested.

(2) The sample shall be taken from at least 50 percent of the flocks supplying eggs of the grade to be tested. These flocks shall be selected at random and shall comprise at least 50 percent of the birds in all such flocks. The sample shall be taken at random from eggs held in the hatchery egg room or in the egg rooms of the individual supply flocks; provided, that if the egg room contains eggs from more than one flock, all eggs must be identified as to flock source.

(3) The sample shall be taken in proportion to the number of birds in each sampled flock.

(4) The sample shall not include eggs which, in the opinion of the sample taker, are unsuitable for hatching.

(5) Each egg shall be identified with a stamp furnished by the test management and placed in an appropriate container for shipment to the test.

(6) The sample taker shall furnish the Official State Agency and the test supervisor with a detailed report of the procedure followed in obtaining each sample.

(d) The sample of eggs shall be taken at random from the entrant's supply flocks or from his breeder replacement flocks.

(e) The eggs from all entrants shall be incubated in one hatchery at the same time.

(f) Poults shall be banded in each wing with a sealed and numbered band for identification.

(g) Poults shall be brooded and reared either intermingled or separated by entries, at the option of the test management, provided that

varieties of different size or color shall be separated.

(h) The duration of the test shall be determined by the test management.

(i) The following data shall be obtained and reported by the Official State Agency for each entry;

(1) Kind of stock (variety, strain or cross; supply flock or breeder replacement);

(2) Mating procedure: (Natural mating, artificial insemination or both);

(3) Number of breeder hens in the flock or flocks from which egg sample was drawn;

(4) Mortality to two weeks of age; to eight weeks of age; and to the end of the test. (When feed conversion data are obtained all birds that die shall be weighed at the time of death and such weights used in the computations);

(5) Average live weight (i) of fryer-roaster entry at the end of test; and (ii) of mature marketing entry at 12 weeks of age; and at close of test. (Such average weights shall be based on individual weights and separated by sexes);

(6) Average eviscerated weight, including neck and giblets, of all birds completing the test, by sexes. (If neck or giblets are not included this shall be explained in all reports);

(7) Average breast width, body depth and keel length of the New York dressed birds, by sexes. (The breast width shall be measured at the widest point 1¾ inches above the keel. The body depth shall be measured at the deepest point. These measurements shall be taken while the birds are suspended by the legs);

(8) Coefficient of variability of final live and eviscerated weights and body measurements;

(9) The number of birds, by sexes (expressed in percentage), in each U. S. Grade with all factors considered, except dressing defects; and the number in U. S. Grade A for each of following factors: (i) fleshing; (ii) finish; and (iii) freedom from pinfeathers; [1]

(10) Other items, such as dressing percentage, feed conversion and defects of economic importance, at the option of the Official State Agency and the AH Division.

(j) In each test the differences between the entry averages in final live and eviscerated weights and body measurements shall be analyzed by a suitable mean separation procedure such as the Duncan's Multiple Range Test. Significance or non-significance (at the 5 percent level) of the differences between entries shall be shown in the report published by the AH Division.

(k) The results of the tests reported to the AH Division by December 1 shall be published in a national summary alphabetically by test and entries, with no indication of rank other than that which may result from the procedure provided for in paragraph (j) of this section.

Sec. 146.31 **On-the-farm turkey meat production test.** An on-the-farm turkey meat production test is a test to fryer-roaster or mature marketing age of a representative sample of the entrant's stock conducted under supervision of the Official State Agency to which the following provisions apply:

(a) The test shall be available to any participant whose flock is qualified for the U. S. Pullorum-Typhoid Clean classification.

(b) An entry shall consist of at least 100 poults, either straight-run or 50 percent of each sex.

(c) The sample of poults shall be taken at random from the entrant's supply flocks or from his breeder replacement flocks.

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[1] The grading will be based on United States Classes, Standards and Grades for Poultry, as contained in 7 CFR, Part 70, Subpart B.

(d) Poults shall be banded in each wing with a sealed and numbered band for identification.

(e) The duration of the test shall be determined by the Official State Agency.

(f) The following data shall be obtained and reported by the Official State Agency for each entry:

(1) Kind of stock (variety, strain or cross; supply flock or breeder replacement);

(2) Mating procedure: (Natural mating, artificial insemination or both);

(3) Number of hens in the flock or flocks from which poult sample was drawn;

(4) Percentage of poults started that finished the test;

(5) Average live weight, by sexes, based on individual weights of all birds at the close of the test;

(6) Average eviscerated weight, including neck and giblets, of all birds completing the test, by sexes. (If neck or giblets are not included this shall be explained in all reports.);

(7) Average breast width, body depth and keel length of the New York dressed birds, by sexes. (The breast width shall be measured at the widest point 1¾ inches above the keel. The body depth shall be measured at the deepest point. These measurements shall be taken while the birds are suspended by the legs.);

(8) Coefficient of variability of all weights and body measurements.

(g) Reserved.

(h) The results of the test reported to the AH Division by December 1, shall be published in a national summary alphabetically by entries, with no indication of rank.

Part 147—Auxiliary Provisions on National Poultry and Turkey Improvement Plans

SUBPART A—BLOOD TESTING PROCEDURES

Sec.

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SUBPART B—BACTERIOLOGICAL EXAMINATION PROCEDURE

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147.28 Approval of conference recommendations by the Department.

Subpart A—Blood Testing Procedures

Sec. 147.1 **The standard tube agglutination test.**[1] (a) The blood samples should be collected and delivered as follows:

(1) The blood samples should be taken by properly qualified and authorized persons only, and in containers provided by the laboratory. The containers should be stout-walled test tubes preferably ⅜ by 3 inches, without lip, or small well-selected medicine vials, which have been thoroughly cleaned and dried in a hot-air drying oven. If

[1] The procedure described is a modification of the method reported in the Proceedings of the United States Live Stock Sanitary Association, November 30 to December 2, 1932, pp. 487 to 491.

stoppers are used they should be thoroughly cleaned and dried.

(2) Sufficient blood should be procured by making a small incison in the large median wing vein with a small sharp lancet and allowing the blood to run into the tube, or by the use of a small syringe (with 20 or 21 gage needle) which is properly cleansed between bleedings with physiological saline solution. To facilitate the separation of the serum the tubes should be placed in a slanted position until the blood has solidified. After the blood has completely clotted, they should be packed and shipped by mail (special delivery), rapid express, or by messenger, to the laboratory. All labeling must be clear and permanent, and may be done with a suitable pencil on etched portions of the tube, or by means of fast-gum labels.

(3) The blood samples must reach the laboratory in a fresh and unhemolyzed condition. Hemolyzed samples should be rejected. It is imperative, therefore, to cool the tubes immediately after slanting and clotting, and unless they reach the laboratory within a few hours, to pack them with ice in special containers, or use some other cooling system which will insure their preservation during transportation. In severe cold seasons, extreme precautions must be exercised to prevent freezing and consequent laking. The samples must be placed in cold (5° to 10° C.) storage, immediately upon arrival at the laboratory.

(b) The antigen shall consist of representative strains of S. pullorum which are of known antigenic composition, high agglutinability, but are not sensitive to negative and nonspecific sera. The stock cultures may be maintained satisfactorily by transferring to new sloped agar at least once a month and keeping at 18° to 25° C. (average room temperature) in a dark closet or chest, following incubation for from 24 to 36 hours at 37° C. The antigenic composition and purity of the stock cultures should be checked consistently.

(c) A satisfactory medium which has been used for a long time has the following composition:

Water	1,000 cc.
Difco beef extract	4 gm. (0.4 percent)
Difco Bacto-peptone.	10 gm. (1.0 percent)
Difco dry-granular agar.	20 gm. (2.0 percent)

Reaction-pH 6.8 to 7.2.

Large 1-inch test tubes, Kolle flasks or Blake bottles should be streaked liberally over the entire agar surface with inoculum from 48-hour slant agar cultures prepared from the stock cultures of the selected strains. The antigen-growing tubes or bottles should be incubated 48 hours at 37° C. and the surface growth washed off with sufficient phenolized (0.5 percent) saline (0.85 percent) solution to make a heavy suspension. The suspension should be filtered free of clumps through a thin layer of absorbent cotton in a Buchner funnel with the aid of suction. The antigens of the separate strains should be combined in equal volume-density and stored in the refrigerator (5° to 10° C.) in tightly stoppered bottles.

(d) Thiosulfate-Glycerin (TG) medium may be used as an alternate medium for the preparation of tube agglutination antigen. The TG medium, formerly used for the preparation of stained, whole-blood antigen, is described in more detail in the article by MacDonald, A. D., Recent Developments in Pullorum Antigen for the Rapid, Whole-Blood Test, Report of the Conference of the National Poultry Improvement Plan, pages 122–127, 1941. This medium provides a tube antigen of excellent specificity and greatly increases the yield of antigen from a given amount of

medium. The TG medium has the following composition:

Beef infusion	1,000 cc.
Difco Bacto-peptone	20 gm. (2.0 percent)
Sodium thiosulfate	5 gm. (0.5 percent)
Ammonium chloride	5 gm. (0.5 percent)
Glycerin, U. S. P. (95 percent)	20 cc. (2.0 percent)
Difco dry-granular agar	30 gm. (3.0 percent)
Reaction-pH	6.8 to 7.2

Large 1-inch test tubes, Kolle flasks, Blake bottles or Erlenmeyer flasks should be seeded over the entire agar surface with inoculum from 24-hour beef infusion broth cultures prepared from the stock cultures of the selected strains. The antigen-growing tubes or bottles should be incubated 96 hours at 37° C. and the surface growth washed off with sufficient phenolized (0.5 percent) saline (0.85 percent) solution to make a heavy suspension. The suspension should be filtered free of clumps through a thin layer of absorbent cotton in a Buchner funnel with the aid of suction. The antigen should be then centrifuged. The mass of bacteria should be removed from the centrifuge tubes or bowl and resuspended in saline (0.85 percent) solution containing 0.5 percent phenol. After the bacterial mass has been uniformly suspended in the diluent it should be again passed through a cotton pad in a Buchner funnel without the aid of suction. The antigens of the separate strains should be combined in equal volume-density and stored in the refrigerator (5° to 10° C.) in tightly stoppered bottles.

(e) The diluted antigen to be used in the routine testings should be prepared from the stock antigen by dilution of the latter with physiological (0.85 percent) saline solution containing 0.25 percent of phenol to a turbidity corresponding to 0.75–1.00 on the McFarland nephelometer scale. The hydrogen-ion concentration of the diluted antigen should be corrected to pH 8.2 to 8.5 by the addition of dilute sodium hydroxide. New diluted antigen should be prepared each day and kept cold. The diluted antigen may be employed in 2 cc. quantities in 4 by ½ inch test tubes or 1 cc. quantities in smaller tubes in which the final serum-antigen mixtures are made and incubated. The distribution of the antigen in the tubes may be accomplished by the use of long burettes, or special filling devices made for the purpose.

(f) The maximum serum dilution employed must not exceed 1:50 for chickens nor 1:25 for turkeys. The available data indicate that 1:25 dilution is the most efficient. In all official reports on the blood test the serum dilutions shall be indicated. The sera should be introduced into the agglutination tubes in the desired amounts with well-cleaned serological pipettes or special serum delivery devices which do not permit the mixing of different sera. The antigen and serum should be well mixed before incubation. The serum and antigen mixture must be incubated for at least 20 hours at 37° C.

(g) The results shall be recorded as:

N, or — (negative) when the serum-antigen mixture remains uniformly turbid.

P, or + (positive) when there is a distinct clumping of the antigen, and the liquid between the agglutinated particles is clear.

S, or ? (suspicious) when the agglutination is only partial or incomplete.

M, or missing, when samples listed on the original record sheet are missing.

H, or hemolyzed, when blood samples are hemolyzed and cannot be tested.

B, or broken, when sample tubes are broken and no serum can be obtained.

(Some allowance must always be made for the difference in sensitiveness of different antigens and different set-ups, and therefore a certain amount of independent, intelligent judgment must be exercised

at all times. Also, the histories of the flocks require consideration. In flocks where individuals show a suspicious agglutination, it is desirable to examine representative birds bacteriologically to determine the presence or absence of S. pullorum.)

Sec. 147.2 **The rapid serum test.**[2] (a) The procedure for the collection and delivery of blood samples in the rapid serum test is the same as that described in section 147.1 (a).

(b) The antigen should be prepared as follows: (1) The antigen should consist of representative strains of S. pullorum which are of known antigenic composition, high agglutinability, but are not sensitive to negative and nonspecific sera.

(2) A satisfactory medium which has been used for a long time has the following composition:

Water	1,000 cc.
Difco beef extract	4 gm. (0.4 percent)
Difco Bacto-peptone.	10 gm. (1.0 percent)
Difco dry-granular agar.	20 gm. (2.0 percent)
Reaction-pH 6.8 to 7.2.	

(3) Large 1-inch test tubes, Kolle flasks or Blake bottles are streaked liberally over the entire agar surface with inoculum from 48-hour slant-agar cultures prepared from stock cultures of the selected strains. The stock cultures may be maintained satisfactorily by transferring to new sloped agar at least once a month and keeping at 18° to 25° C. in a dark closet or chest, following incubation for from 24 to 36 hours at 37° C. The antigenic composition and purity of the stock cultures should be checked consistently.

(4) The antigen-growing tubes or bottles should be incubated 48 hours at 37° C. and the surface growth washed off with a very slight amount of 12 percent solution of sodium chloride containing 0.25 to 0.5 percent phenol, filtered through lightly packed sterile absorbent cotton placed in the apex of a sterile funnel.

(5) The washings should be adjusted (using 12 percent sodium chloride containing 0.25 to 0.5 percent phenol), so that the turbidity is 50 times greater than tube 0.75 of McFarland's nephelometer or to a reading of 7 mm. by the Gates nephelometer.

(6) The individual strain antigens should be tested with negative sera for their insensitivity and with positive sera for high agglutinability in comparison with known satisfactory antigen. The antigens of the separate strains should be combined in equal volume-density and stored in the refrigerator (5° to 10° C.) in tightly stoppered bottles.

(c) The tests should be conducted on a suitable, smooth plate. The serum-antigen dilution should be made so that the dilution will not exceed 1:50 when compared to the standard tube agglutination test. When testing turkey blood samples it is desirable to use a serum-antigen dilution equivalent to the 1:25 in the tube method. The serum should be added to the antigen and mixed thoroughly by use of the tip of the serum pipette. Most strong positive reactions will be plainly evident within 15 to 20 seconds. The final reading should be made at the end of 2 or 3 minutes. Heating the plate at approximately 37° C. will hasten agglutination. Before reading, the plate should be rotated several times.

(d) The results shall be recorded as:

N, or — (negative) when the serum-antigen mixture remains uniformly turbid.

P, or + (positive) when there is a distinct clumping of the antigen, and the liquid between the agglutinated particles is clear.

S, or ? (suspicious) when the agglutination is only partial or incomplete.

[2] The procedure described is a modification of the method reported by Runnels, Coon, Farley, and Thorpe, Amer. Vet. Med. Assoc. Jour. 70 (N. S. 23): 660–662 (1927).

M, or missing, when samples listed on the original record sheet are missing.
H, or hemolyzed, when blood samples are hemolyzed and cannot be tested.
B, or broken, when sample tubes are broken and no serum can be obtained.

(Allowance should be made for differences in the sensitiveness of different antigens and different set-ups, and therefore a certain amount of independent, intelligent judgment must be exercised at all times. Also, the histories of the flocks require consideration. In flocks where individuals show a suspicious agglutination, it is desirable to examine representative birds bacteriologically to determine the presence or absence of S. pullorum.)

Sec. 147.3 **The stained-antigen rapid, whole-blood test.**[3] (a) The description of the preparation of antigen is not herein included because that product is produced only under license from the Secretary of Agriculture in accordance with specific directions.

(b) A loop for measuring the correct quantity of blood can usually be obtained from the manufacturer of the antigen. A satisfactory loop may be made from a piece of No. 20 gage nichrome wire, 2½ inches long, at the end of which is fashioned a loop three-sixteenths of an inch in diameter. Such a loop when filled with blood, so that the blood appears to bulge, delivers 0.02 cc. A medicine dropper, whose tip is adjusted to deliver 0.05 cc. is used to measure the antigen. A glass plate about 15 inches square providing space for 48 tests has proved satisfactory for this work. The use of such a plate enables the tester to have a number of successive test mixtures under observation without holding up the work to wait for results before proceeding to the next bird.

(c) A drop of antigen should be placed on the testing plate. A loopful of blood should be taken up from the wing vein. When submerged in the blood and then carefully withdrawn, the loop becomes properly filled. On looking down edgewise at the filled loop, one observes that the blood appears to bulge. The loopful of blood then should be stirred into the drop of antigen and the mixture spread to a diameter of about 1 inch. The loop then should be rinsed in clean water and dried by touching it to a piece of clean blotting paper, if necessary. The test plate should be rocked from side to side a few times to mix the antigen and blood thoroughly, and to facilitate agglutination. The antigen should be used according to the directions of the producer.

(d) Various degrees of reaction are observed in this as in other agglutination tests. The greater the agglutinating ability of the blood the more rapid the clumping and the larger the clumps. A positive reaction consists of a definite clumping of the antigen surrounded by clear spaces. Such reaction is easily distinguished against a white background. A somewhat weaker reaction consists of small but still clearly visible clumps of antigen surrounded by spaces only partially clear. Between this point and a negative or homogeneous smear there sometimes occurs a very fine granulation barely visible to the naked eye; this should be disregarded in making a diagnosis. The very fine marginal clumping which may occur just before drying up is also regarded as negative. In a nonreactor the smear remains homogeneous. (Allowance should be made for differences in the sensitiveness of different antigens and different set-ups, and therefore a certain amount of independent, intelligent judgment must be exercised at all times. Also the histories of the flocks require

[3] The procedure described is a modification of the method reported by Schaffer, MacDonald, Hall, and Bunyea, Jour. Amer. Vet. Med. Assoc. 79 (N. S. 32): 236–240 (1931).

consideration. In flocks where individuals show a suspicious agglutination, it is desirable to examine representative birds bacteriologically to determine the presence or absence of S. pullorum.)

Sec. 147.4 **Tube agglutination tests for S. typhimurium.** (a) The procedure for the collection and delivery of blood samples in the tube agglutination test for S. typhimurium is the same as that described in section 147.1 (a).

(b) The "O" antigen should be prepared as follows:

(1) The antigen shall consist of a representative non-motile strain of S. typhimurium which is of known antigenic composition, high agglutinability, but is not sensitive to negative and nonspecific sera. Strain P 10 meets these requirements.

(2) The stock culture is maintained on 1 percent nutrient agar deeps, which have been incubated for 18–24 hours at 37° C. They are stored at room temperature.

(3) A satisfactory medium used for growing the organism is veal infusion agar (Difco). It is dispensed in 50 ml. amounts into 500 ml. medicine bottles, with screw caps, and sterilized at 15 lbs. pressure for 20 minutes. The bottles are then laid flat upon an even surface until the medium has solidified.

(4) The inoculum used for preparation of "O" antigen is a nonmotile strain of S. typhimurium. The organism is grown in veal infusion broth (Difco) for 18–24 hours at 37° C., then plated, for single colony isolation, on veal infusion agar plates. These plates are incubated for 18–24 hours at 37° C. After incubation single colonies are picked and transferred to veal infusion agar slants, which are incubated for 18–24 hours at 37° C. After this the cultures are tested for smoothness by using a 1:500 dilution of acriflavine.

(5) Smooth cultures are inoculated into flasks containing veal or beef infusion broth which is incubated for 18–24 hours at 37° C. The incubated broth suspension of organisms is dispensed into the antigen bottles containing veal infusion agar. The suspension is distributed evenly over the agar surface by gently tilting the bottles from side to side. The inoculated bottles are then laid flat, agar side down, for 10–20 minutes. They are subsequently incubated, agar side upward, for 24–48 hours at 37° C. before harvesting.

(6) The harvesting of the organism consists of washing the growth from each antigen bottle with 0.5 percent phenolized physiological saline. The bacterial suspension from each bottle is filtered through sterile milk pad filters into a large sterile container or through a thin layer of absorbent cotton in a Buchner funnel with the aid of suction. To each 100 ml. of the bacterial suspension is added additional phenol to make the final concentration 0.5 percent. The concentrated antigen is tested for sterility at intervals after 24 hours. After sterility is proved the stock antigen is standardized to determine the density according to the McFarland nephelometer scale.

(7) The diluted antigen to be used in routine testing is prepared from stock antigen by diluting with 0.25 percent phenolized saline and is standardized to a turbidity corresponding to 0.75–1.00 of the McFarland nephelometer scale.

(c) The "H" antigen should be prepared as follows:

(1) Stock cultures of fixed phases, 1 and 2, of S. typhimurium are maintained in semisolid medium containing desired suppression antiserum. However, before using the cultures for the preparation of "H" antigen they should be passed through semisolid medium at 24 hour intervals in order to obtain a

high degree of motility and checked for desired phase antigens.

(2) Either a solid or a liquid medium may be used to obtain growth for antigen. The solid medium is the same as that used in the preparation of "O" antigen. The liquid medium is veal infusion broth, dispensed in 1000 ml. amounts into 2000 ml. flasks.

(3) Each phase is inoculated separately into either solid or liquid medium. The flasks of broth to be used for inoculum of the solid medium are inoculated directly from the semisolid medium. If solid medium is used, the inoculated antigen bottles are handled and incubated in the same manner as when making the "O" antigen.

If liquid medium is used it is inoculated directly from the semisolid culture of bacteria.

(4) Each phase is harvested separately by washing the growth from the antigen bottles, with physiological saline containing 0.6 percent formalin. The washed inoculum is filtered through sterile milk pad filters into a large container or through a thin layer of absorbent cotton in a Buchner funnel with the aid of suction. To each 100 ml. of the bacterial suspension, formalin is added to make the final concentration from 0.5 to 1.0 percent. The stock antigen is tested for sterility at intervals after 24 hours. After sterility is proved the stock antigen is standardized to determine the density according to the McFarland nephelometer scale. Then Phase 1 and Phase 2 antigens are combined so that the stock "H" antigen will contain the same proportion of Phase 1 and Phase 2, as determined by standardization. The "H" antigens prepared from broth are treated with formalin so the final concentration is 0.5–1 percent.

(5) The diluted antigen to be used in routine testing is prepared from stock antigen by diluting with 0.25 percent formalized saline and is standardized to a turbidity corresponding to 0.75–1.00 on the McFarland nephelometer scale. The antigens are stored in the refrigerator (5° to 10° C.) in tightly stoppered bottles.

(d) The maximum serum dilution employed for the "O" antigen tube test must not exceed 1:25. In all official reports on the blood test the serum dilutions should be indicated. The sera should be introduced into the agglutination tubes in the desired amounts with well-cleaned serological pipettes or special serum delivery devices which do not permit the mixing of different sera. The antigen and serum should be well mixed before incubation. The serum and antigen mixture must be incubated for at least 20 hours at 37° C.

(e) The maximum serum dilution employed for the "H" antigen tube test must not exceed 1:25. In all official reports on the blood test the serum dilutions should be indicated. The serum and antigen mixture may be incubated at 45–50° C. in a water bath for 4 hours or at 37° C. for at least 20 hours.

(f) The results shall be recorded as:

N, or — (negative) when the serum antigen mixture remains uniformly turbid.
P, or + (positive) when there is a distinct clumping of the antigen, and the liquid between the agglutinated particles is clear.
S, or ? (suspicious) when the agglutination is only partial or incomplete.
M, or missing, when samples listed on the original record sheet are missing.
H, or hemolyzed, when blood samples are hemolyzed and cannot be tested.
B, or broken, when sample tubes are broken and no serum can be obtained.

Subpart B—Bacteriological Examination Procedure

Sec. 147.11 **Laboratory procedure recommended for the bacteriological examination of reactors.** (a) The pericardial sac, peritoneum, oviduct and any visibly

pathological tissues should be cultured on beef extract agar or tryptose agar by means of sterile swabs. Sterile technique should be followed. (Primary culture of these organs in a suitable nutrient broth and transfer to a suitable nutrient agar is optional.)

(b) The following organs should be aseptically collected for culture:

(1) Heart (apex, pericardial sac, and contents if present.);

(2) Liver (portions exhibiting lesions or in grossly normal organs the drained gall bladder and adjacent liver tissues.);

(3) Ovary-Testes (entire inactive ovary or testes but if ovary is active use own judgment and include any atypical ova.);

(4) Oviduct (if active include any debris and dehydrated ova.);

(5) Pancreas; and

(6) Spleen.

(c) A composite sample of the organs listed in section 147.11 (b) should be ground in a sterile mortar or suitable blender. Individual organs may be used if desired. Nutrient broth should be added as a diluent. Ten cc. of this suspension should be inoculated into 100 cc. of either Selenite F broth or Tetrathionate broth and into 100 cc. of a suitable noninhibitory nutrient broth.

(d) After 24 hours incubation at 37° C. a loopful of the broth cultures from each flask should be streaked on a suitable noninhibitory solid medium such as tryptose agar and one of the following selective media: Salmonella-Shigella (SS), MacConkey, Brillant Green, Bismuth Sulfite, or Desoxycholate Citrate Lactose Sucrose (D. C. L. S.) agar. (All of these media may be obtained in dehydrated form.) If no suspicious colonies are observed after 24 hours incubation the enrichment broths should be restreaked on solid media.

(e) A portion of the crop wall and intestine to include the cecal tonsils are put into either Selenite F or Tetrathionate broth and incubated for 24 hours at 37° C. Transfers should be made from the broth onto agar plates as indicated in section 147.11 (d).

(f) Suspicious single colonies should be subcultured on nutrient agar or triple sugar iron agar slants and incubated for 24 hours at 37° C.

(g) Cultures should be transferred to the following fermentable media for identification: dextrose, lactose, sucrose (saccharose), mannite (mannitol), maltose, dulcite (dulcitol) and salicin broths. Suitable tests also should be conducted for the detection of indole, hydrogen sulfide, acetylmethylcarbinol, and urease production. Motility or nonmotility is demonstrated by inoculation of a suitable semisolid medium. For the Gram stain a 24 hour nutrient agar slant culture should be used.

(h) All Salmonella cultures isolated should be serologically typed.

Subpart C—Procedure for Changing National Poultry and Turkey Improvement Plans

Sec. 147.21 **Definitions.** Except where the context otherwise requires, for the purposes of this subpart the following terms shall be construed, respectively, to mean:

(a) **NPIP.** The National Poultry Improvement Plan.

(b) **NTIP.** The National Turkey Improvement Plan.

(c) **Department.** The United States Department of Agriculture.

(d) **AH Division.** The Animal Husbandry Research Division of Agricultural Research Service of the Department.

(e) **State.** Any State, the District of Columbia, Alaska, Hawaii, or Puerto Rico.

(f) **USROP or ROP.** U. S. Record of Performance.

Sec. 147.22 **General.** Changes in this subchapter shall be made in

accordance with the procedure described in this subpart; *Provided*, That the Department reserves the right to make changes in this subchapter without observance of such procedure, whenever, such action is deemed necessary in the public interest.

Sec. 147.23 **Submitting, compiling and distributing proposed changes.**

(a) Changes in this subchapter may be proposed by any participant, Official State Agency, the Department, or other interested person or industry organization.

(b) Except as provided in section 147.25 (d) (1), proposed changes shall be submitted in writing so as to reach the AH Division not later than 90 days prior to the opening date of the conference, and participants in a Plan shall submit their proposed changes through their Official State Agency.

(c) The name of the proponent shall be indicated on each proposed change when submitted. Each proposal should be accompanied by a brief suporting statement.

(d) The AH Division will notify all persons on the NPIP and NTIP mailing lists concerning the dates and general procedure of the conference. Hatchery, dealer and ROP participants will be reminded of their privilege to submit proposed changes and to request copies of all the published proposed changes.

(e) The proposed changes, together with the names of the proponents and supporting statements, will be compiled by the AH Division and issued in processed form. When two or more similar changes are submitted, the AH Division will endeavor to unify them into one proposal acceptable to each proponent. Copies will be distributed to State officials of the NPIP and NTIP and to ROP participants. Additional copies will be made available for meeting individual requests.

Sec. 147.24 **Official delegates.** Each State cooperating in the NPIP shall be entitled to one NPIP official delegate, and likewise, each State cooperating in the NTIP shall be entitled to one NTIP official delegate. The official delegates shall be elected by a representative group of participating industry members and be certified by the Official State Agency. It is recommended but not required that the NPIP official delegate be an NPIP participant.

Each official delegate shall endeavor to obtain, prior to the conference, the recommendations of industry members of his State with respect to each proposed change.

Sec. 147.25 **General Conference Committee.** (a) The General Conference Committee shall consist of the Poultry Coordinator in Charge, National Poultry and Turkey Improvement Plans, AH Division, and one member to be elected from each of the following regions:

(1) North Atlantic: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

(2) South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.

(3) East North Central: Ohio, Indiana, Illinois, Michigan, and Wisconsin.

(4) West North Central : Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

(5) Western: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

(6) South Central: Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

(b) The committee members will be elected by the NPIP and NTIP official delegates of the respective

regions. Each region shall also elect one alternate member. There shall be at least two nominees for each position and the voting shall be by secret ballot.

(c) Three members shall be elected at each NPIP and NTIP Conference. At the 1954 conference, members were elected for 4-year terms for the North Atlantic, East North Central, and Western regions; whereas members were elected for 2-year terms for the South Atlantic, West North Central, and South Central regions. Thereafter, each member of the committee shall serve for a period of 4 years and may not succeed himself.

(d) The duties of the General Conference Committee are as follows:

(1) Determine whether new proposals (i. e., proposals that have not been submitted as provided in section 147.23) may be considered. New proposals will be considered only with the unanimous consent of the committee.

(2) During the interim between conferences, the committee shall represent the cooperating States in:

(i) Reviewing and giving recommendations regarding the Department's report of changes and editing of this subchapter to include the changes.

(ii) Serving in an advisory capacity with respect to administrative procedures and interpretations of the provisions of this subchapter.

(iii) Recommending such administrative changes as may be necessitated by unforeseen conditions when postponement until the next conference would seriously impair the operation of the program. Such changes shall not affect the basic provisions of this subchapter and shall remain in effect only until confirmed or rejected by the next NPIP and NTIP Conference, or until rescinded by the committee;

(iv) Assisting the AH Division in formulating plans for the next conference.

Sec. 147.26 **Committee consideration of proposed changes.** (a) The following six committees shall be established to give preliminary consideration to the proposed changes, falling in their respective fields:

(1) NPIP General Provisions.
(2) NPIP Breeding.
(3) NPIP Disease Control.
(4) NTIP General Provisions.
(5) NTIP Breeding.
(6) NTIP Disease Control.

(b) Each official NPIP delegate shall be appointed a voting member in one of the committees specified in paragraph (a) (1), (2), and (3) of this section and each official NTIP delegate shall be appointed a voting member in one of the committees specified in paragraph (a) (4), (5), and (6) of this section.

(c) Since several of the proposals may be interrelated, the committees shall consider them as they may relate to others, and feel free to discuss related proposals with other committees.

(d) The committees shall make recommendations to the conference as a whole concerning each proposal. The committee report shall show any change in wording and the record of the vote on each proposal, and suggest an effective date for each proposal recommended for adoption. The individual committee reports shall be submitted to the chairman of the conference, who will combine them into one report showing, in numerical sequence, the committee recommendations on each proposal.

(e) The committee meetings shall be open to any interested person. Advocates for or against any proposal should feel free to appear before the appropriate committee and present their views.

Sec. 147.27 **Conference consideration of proposed changes.** (a) The chairman of the conference

shall be a representative of the Department.

(b) At the time designated for voting on proposed changes by the official delegates, the chairman of the General Conference Committee and the six committee chairmen shall sit at the speaker's table and assist the chairman of the Conference.

(c) Each committee chairman shall present the proposals which his committee approves or recommends for adoption as follows: "Mr. Chairman. The committee on NPIP General Provisions recommends the adoption of Proposal No. —, for the following reasons: I move the adoption of Proposal No. —." A second will then be called for. If the recommendation is seconded, discussion and a formal vote will follow.

(d) Each committee chairman shall present the proposals which his committee does not approve as follows: "Mr. Chairman. The committee on NPIP General Provisions does not approve Proposal No. —." The chairman will then ask if any official delegate wishes to move for the adoption of the proposal. If moved and seconded, the proposal is subject to discussion and vote. If there is no motion for approval, or if moved, but not seconded, there can be no discussion or vote and the proposal is thereby rejected.

(e) Discussion on any motion must be withheld until the motion has been properly seconded, except that the delegate making the motion is privileged, if he desires, to give reasons for his motion at the time of making it. To gain the floor for a motion or for discussion on a motion, the official delegate in the case of a motion, or anyone in case of discussion on a motion, shall rise, address the chair, give his name and State, and be recognized by the chair before proceeding further. While it is proper to accept motions only from official delegates and to limit voting only to such delegates, it is however, equally proper to accept discussion from anyone interested. To conserve time, discussion should be pointed and limited to the pertinent features of the motion.

(f) Proposals that have not been submitted in accordance with section 147.23 will be considered by the conference only with the unanimous consent of the General Conference Committee. Any such proposals must be referred to the appropriate committee for consideration before being presented for action by the conference.

(g) Voting will be by States and each cooperating State will be allowed one vote. Unless otherwise arranged, the NPIP official delegate shall cast his State's vote on changes affecting the NPIP, and the NTIP official delegate shall cast his State's vote on changes affecting the NTIP.

(h) A roll call of States for a recorded vote will be used when requested by a delegate or at the discretion of the chairman.

(i) All motions on proposed changes shall be for adoption.

(j) Proposed changes shall be adopted by a majority vote of the official delegates present and voting.

(k) The conference shall be open to any interested person.

Sec. 147.28 **Approval of conference recommendations by the Department.** Proposals adopted by the official delegates will be recommended to the Department for incorporation into the provisions of the NPIP and NTIP. The Department reserves the right to approve or disapprove the recommendations of the conference as an integral part of its sponsorship of the NPIP and NTIP.

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